REMARKS

Applicants have amended some of the pending claims above to improve and clarify their language. Although applicants thank the Examiner for her indication that many of the claims would be allowable if amended, applicants do not believe that it is necessary to make such amendments to put all of the pending claims in condition for allowance.

Claims 24-26, 30-32, 45-47, 51-53, 55-57, 59, 81-83, 85, 86, 90-92, 94, 95 and 97-99 stand rejected under 35 USC 103(a) on Iioka in view of Kallander. The Examiner reads Iioka and Kallander as follows:

> Iioka et al. has a heat-insulating paper container, comprising a container body and a bottom wall, which has a thick expanded (foamed) heat-insulating layer in the area of the outer surface of the body member and is provided with printing of an organic solvent based ink. The paper base (sheet) used in producing the heat-insulated container has preferably a basis weight in the range from 100g/m^2 to 400 g/m^2 with a water content within the range from about 3% to about 10% (column 6, lines 30-40). The process by which the base paper is made is not given any further consideration. * * *.
>
> Iioka et al. teaches that the second thermoplastic synthetic resin film laminated on an outer wall surface of said base paper of said container body (film on the outer surface) must be a low-density polyethylene (LDPE) and the first thermoplastic synthetic resin film laminated on an inner wall surface of said base paper of said container body (film on the inner surface) must be a medium or high density polyethylene (MDPE, HDPE) (column 6, lines 13-16).
>
> Iioka et al. teaches that the ink to be used in printing is of such a type that very small amounts of solvent components remain in the printed surface to accelerate film expansion (foaming) via heat treatment (in an oven). Since the residual ink solvents contribute to enhanced expansion (foaming) of the film (column 4, lines 15-30) and are a component of the ink, in the absence of a showing to the contrary, the examiner has taken the position that the applied ink would expand commensurately with the expansion (foaming) of the film.
>
> Although Iioka et al. teaches ink between the base paper and the foamable resin layer, it fails to teach application of the ink as print to the top of the expandable film or the color of the ink.
>
> Kallander et al. is directed to decorated expanded (foamed) plastic wherein the ink is applied to (contacted with) the expandable (foamable) surface (column 1, lines 1-20). * * *. Kallander et al. merely demonstrates that it would

have been obvious to one of ordinary skill in the art to have also printed the ink on top of the expanded (foam) insulated area as a variation of the design of Iioka et al. since decorative printing on top of the foam is well known in the art.

Applicants agree with the Examiner that Iioka does not disclose placing the expandable ink on top of the expandable polyethylene layer. Applicants respectfully submit that the Examiner has misinterpreted the claims by using Kallander as evidence "that it would have been obvious to one of ordinary skill in the art to have *also* printed the ink on top of the expanded (foam) insulated area." [Emphasis added.] Furthermore, the Examiner does not point to any evidence in Iioka or Kallander to support the underlying factual proposition on which the obviousness rejection hinges, that it would have been obvious to use Iioka's allegedly expansile ink[1] on top of the foamable layer and not between the foamable layer and the base paper.

The rejected claims do *not* cover products in which the ink is "also" printed on top of the foamable layer as well as between the foamable layer and the base paper. The claims state that the second thermoplastic synthetic resin film (the foamable layer) is "laminated on" the base paper layer. That means that the foamable layer and the base paper are in direct contact (the broadest reasonable interpretation of "laminated on" requires such a meaning) so there is no ink layer between the base paper and the foamable layer, and it is not reasonable in light of the specification to construe the claims to be open to such a layer.

[1] On page 4 of the Action the Examiner seems to take the position that Iioka's ink is inherently an ink which expands commensurately with the expansion of the second thermoplastic film. Applicants do not think it is necessary to present evidence to rebut this statement, since the Examiner has failed to provide a reasoned basis to support the underlying finding that Iioka necessarily and inevitably discloses the claimed expansile ink. Although Iioka's inks as disclosed at col. 4, lines 16-38, contain the same solvents as are disclosed on page 17 of the application, Iioka says at column 4, lines 17-40, that the type of ink to be used is not limited as long as enough solvent remains to allow for the selective foaming of the polyethylene outer layer. Iioka says nothing about whether the inks should expand with the expansion of the polyethylene film under which they are printed, as there is no need for such expansion. Iioka's disclosure of inks is so broad and non-specific, as applicants have already pointed out in prior responses, that it is unreasonable to conclude that Iioka discloses any ink that inherently (i.e., necessarily and inevitably) possesses the property of expanding commensurately with the expansion of the second thermoplastic film. Applicants have already called on the Examiner to provide evidence in support this assertion, but she has failed to do so.

The Examiner has failed to point to any evidence within Iioka that would have motivated persons of ordinary skill in the art to use the allegedly expansile ink taught in Iioka on the outside of the foamable layer instead of between the base paper and the foamable layer as disclosed in Iioka. The thrust of Iioka's disclosure is in a direction different from this invention: it relates to a method of providing a cup surface having variable degrees of foaming depending on whether ink is printed under the polyethylene film or not. In those places where Iioka's base paper is printed with ink containing residual organic solvent, the polyethylene will foam; where it is not printed, the polyethylene does not foam much if at all. There is nothing in Iioka that indicates that this differential foaming will work if the ink is on top of, instead of underneath, the expandable polyethylene layer. Persons of ordinary skill in the art, reading Iioka without the aid of applicants' disclosure, would have thought that Iioka's differential foaming system does not work if the ink is on top of the foamable layer instead of between the foamable layer and the base paper. It is well settled that a reference may not be used in support of an obviousness rejection if the modification of the reference disclosure necessary to arrive at the claimed invention would destroy the mode of operation disclosed in the reference.

Furthermore, even under the Examiner's overly broad interpretation of the claims, there would have been no reason apparent from Iioka to print on top of as well as below the expandable polyethylene layer. As explained at column 2, lines 44-48 of Iioka, "As a matter of fact, the experiment conducted by the present inventors showed that the film in printed areas having adhesive strengths of 10-50 gf foamed to a thickness about 3 times as great as the film that foamed in non-printed areas having adhesive strengths of 200 gf or more." The adhesive strength referred to in this passage is the adhesive strength between the paper container substrate and the polyethylene layer – ink printed on top of the polyethylene layer would have no effect on the adhesion between the paper substrate and the polyethylene layer at all, so there would have been no reason to do it. Persons of ordinary skill in the art would have recognized from this passage that the differential foaming effect disclosed in Iioka depends *only* on the ink layer

between the paper substrate and the expandable polyethylene layer. Thus, even if printing on top of an expandable polyethylene had been known in the art, there would have been no reason to do so that is apparent from Iioka itself (and without using applicants' disclosure as a hindsight guide to the invention).

Finally, the Examiner assumes that Iioka's alleged inherent disclosure of inks expand compatibly with the expansion of the polyethylene layer is proper evidence of obviousness against applicants' claims. However, just because something might be inherent in a reference does not mean that persons of ordinary skill in the art would have recognized the existence of that disclosure or would have been motivated by it to make the claimed invention. The Examiner has not explained how or why persons of ordinary skill in the art would have been motivated to read Iioka the way the Examiner. As explained at MPEP 2141.02, "Obviousness cannot be predicated on what is not known at the time an invention is made, even if the inherency of a certain feature is later established." The only way a person of ordinary skill in the art could read Iioka as proposed by the Examiner is by using applicants' disclosure as a guide, which is legally impermissible

Applicants respectfully submit that the Examiner continues to misread Kallander. This reference does not disclose printing onto the surface of a stock material prior to the foaming of the surface layer as claimed. The ink is used between a foam layer and a release sheet so as to be transferred from the release sheet to the foam layer when they are separated to leave the printed design on the outside of the foamed article. The ink is not printed onto a unfoamed layer that is already attached to a base paper and is subsequently foamed, as claimed. Furthermore, the environment of Kallander is so different from Iioka's that no person of ordinary skill in the art would have looked to Kallander to solve any problem with the structures disclosed in Iioka or *vice versa*.

The remaining rejection relies on Iioka and Kallander for the same teachings, so it should be withdrawn as well.

Early action allowing claims 24-99, 145 and 146 is solicited.

On December 8, 2003, applicants filed an Information Disclosure Statement for this application. Applicants respectfully request the Examiner to consider the cited references in conjunction with this amendment.

In the event that the Patent and Trademark Office determines that a further extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Docket No. 530172000100.

Respectfully submitted,

Dated: December 15, 2003 By: _____

Barry E. Bretschneider
Registration No. 28,055

Morrison & Foerster LLP
1650 Tysons Boulevard, Suite 300
McLean, Virginia 22102
Telephone: (703) 760-7743
Facsimile: (703) 760-7777